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BLOOD PRESSURE CONTROL AND ATHEROMA PROGRESSION IN DIABETIC PATIENTS WITH CORONARY ARTERY DISEASE: INSIGHTS FROM INTRAVASCULAR ULTRASOUND

ACC Moderated Poster Contributions
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Session Title: Treating Hypertension- Pills, Patterns, Procedures
Abstract Category: 7. Prevention: Hypertension
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Background: While guidelines recommend a lower systolic blood pressure (SBP) goal in diabetic patients, the impact of stricter SBP control on atheroma progression in diabetics remains unknown.

Methods: Atheroma progression in 3479 patients with CAD was analyzed by intravascular ultrasound, and compared in diabetic patients (n=1129) stratified by on-treatment SBP level.

Results: Anti-hypertensive drugs were more frequently used in diabetic patients (ACE-I 65 v. 49%, p<0.001, ARB 25 v. 16%, p<0.001, calcium channel blocker 41 v. 37%, p=0.007) than non-diabetics. Despite this, diabetic patients had higher on-treatment SBP (131±13 v. 128±13mmHg, p<0.001) and less achieved SBP<120mmHg (20 v. 27%, p<0.001). Diabetic patients with a SBP <120mmHg were younger (56 v. 59 years, p<0.001), less likely to have a history of hypertension (79 v. 90%, p<0.001) and had lower baseline levels of SBP (115±13 v. 134±15 mmHg, p<0.001) and diastolic blood pressure (71±8 v. 77±15mmHg, p<0.001). While SBP<120mmHg was related to less change in percent atheroma volume, substantial atheroma progression was still observed. However, strict control of both SBP and LDL-C attenuated atheroma progression (Table).

Conclusions: Less diabetic patients achieve stricter SBP goal despite a greater use of anti-hypertensive drugs. While SBP control leads to less atheroma progression, the greatest impact is observed in patients with optimal multiple risk control. This underscores the intensive global risk control in diabetic patients.

Table.

atheroma progression in diabetic patients with different SBP goal

	SBP ≥140mmHg n=230	SBP 130-139mmHg n=287	SBP 120-129mmHg n=328	SBP <120mmHg n=208	p value
Baseline PAV (%)	42.3±8.8	40.4±8.6	39.3±9.5	39.0±8.7	<0.001
Change in PAV (%)	0.78±0.35	0.74±0.34	0.82±0.34	0.48±0.36	0.39

the impact of both SBP and LDL-C control on atheroma progression

	SBP≥120mmHg		SBP<120mmHg		p value
	LDL ≥80mmHg	LDL <80mmHg	LDL ≥80mmHg	LDL <80mmHg	
Change in PAV (%)	1.16±029	0.35±0.30	0.71±0.38	0.31±0.39	0.001

PAV = percent atheroma volume